

Pressure Transmitter

With piezoresistive measuring cell
Pressure ranges 0 – 1 bar to 0 – 1000 bar

PTMFB

Applications

Pressure transmitter models PTMFB are suitable for overpressure and absolute pressure measurement of liquid and gaseous media from 0 – 1 bar to 0 – 1000 bar that do not corrode stainless steel 1.4435 (flush welded membrane), 1.4404 (process connection) and NBR. The design of this robust and compact instrument allows for application even under rough operating conditions, e.g. in hydraulic systems, in test stands, in process engineering, industry and research. Two basic versions are available:

Overpressure	0 – 1 bar to 0 – 1000 bar (up to 0 – 16 bar with ventilation to atmosphere)
Absolute pressure (a)	0 – 1 bar to 0 – 1000 bar (reference point zero absolute)

The pressure transmitters are temperature-compensated and provide a calibrated output signal.

Construction

The piezoresistive sensor is installed in the pressure connection piece and is surrounded by silicone oil. It is separated from the medium by a thin stainless steel diaphragm. The earth conductor of the plug connector is connected to the case.

Standard Versions

Construction Type

Construction length standard, measuring cell placed inside

Process Connection

G ½ B according to DIN 3852 Form E,
made of stainless steel 316L (1.4404) with gasket made of NBR

Measuring Cell / Sensor

Piezoresistive sensor, placed inside, upstream integrated chemical seal unit with flush welded membrane made of stainless steel 316L (1.4435), filling fluid white oil FN2

Case

Stainless steel, degree of protection IP65

Pressure Ranges / Overrange Protection (üs)

Overpressure and absolute pressure	üs	Overpressure and absolute pressure	üs
in bar			
0 – 1	3	0 – 25	100
0 – 1.6	3	0 – 60	150
0 – 2.5	7	0 – 100	300
0 – 4	7	0 – 160	300
0 – 6	15	0 – 250	300
0 – 10	30	0 – 400	1100
0 – 16	30	0 – 600	1100
0 – 25	100	0 – 1000	1100

The corresponding vacuum / compound ranges are also available.

Output Signal

	Supply voltage	Load impedance
4...20 mA 2-wire	10...40 V DC	(U _B – 10 V) / 0.02 A
0...20 mA 3-wire	8...28 V DC	(U _B – 8 V) / 0.02 A
0...10 V 3-wire	13...28 V DC	min. 10 kΩ

Measuring Accuracy

Better than ±0.5 % of full scale value (including non-linearity, hysteresis and non-repeatability)

Temperature Ranges

Storage temperature	–40 to +125 °C (–40 to +257 °F)
Rated temperature	–10 to +80 °C (+14 to +176 °F)

Temperature Influence in the Rated Temperature Range

Zero point	<0.3 % / 10 K
Span	<0.2 % / 10 K

Mechanical Shock

100 g / 1 ms

Mechanical Vibration

Max. 20 g at 15 – 2000 Hz

Reference Temperature

+20 °C (+68 °F)

Long-term Stability of Zero Point and Span

Better than ±0.25 % p.a.

Reverse Voltage Protection

Available

Electrical Connection

Plug connector DIN EN 175301-803 type A, 3-pin + protective contact, degree of protection IP65 (DIN EN 60529)

For assuring the electromagnetic compatibility (EMC), please use a shielded cable (e.g. LP/LiMYCY). The shield has to be connected to the ground terminal or the case. Wiring diagram see page 2.

Position of Installation / Position of Connection

Any

EMC

EN 61000-6-3, 61000-6-2

Options

- **Process connection:** others upon request
- **Electrical connection:**
 - cable gland (IP67), 2 m (6.56') cable
 - circular plug connector M 12x1 (IP67)
 - angular cable box, without cable
 - optional with 2 m (6.56') die cast cable
 - circular plug connector M 12x1 (IP67)
 - straight cable box, without cable
 - others upon request
- **Special version:**
 - silicone-free version
 - version free of grease and oil, up to 0 – 600 bar adjustment ≤ 250 bar with dry air
≥ 400 bar with distilled water
- **Higher temperature:**
 - with temperature decoupler TE, length approx. 30 mm (1.18"),
 - for medium temperatures > 80 °C < 140 °C (> 176 °F < 284 °F)
 - for medium temperatures > 140 °C (> 284 °F) upon request
- **Model PTMkFB:**
 - compact type (4...20 mA only, plug connector 4-pin Hirschmann series G)

Ordering Information

Model	PTMFB
Order code absolute pressure	(a)
Pressure range	e.g. 0 – 100 bar
Output signal	e.g. 0...20 mA
Process connection	e.g. G ½ B

Example	PTMFB, 0 – 100 bar, 0...20 mA, G ½ B
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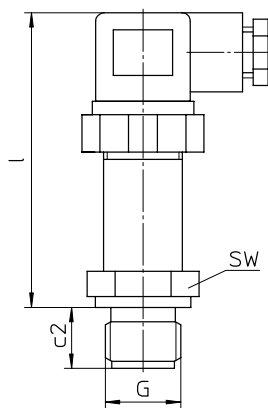
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Case Configuration, Dimensional Data and Weight, Wiring Diagram

PTMFB

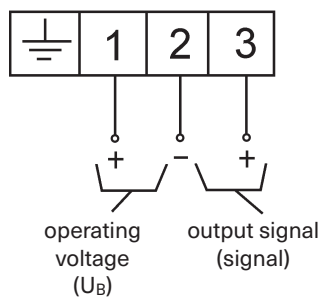


Dimensional Data (mm / inch) and Weight (kg / lb)

c2	G	l	SW	approx. weight
14 0.55	G ½ B (up to 0 – 100 bar)	99 3.9	27 1.06	0.25 0.55
14 0.55	G ½ B (from 0 – 160 bar)	104 4.09	27 1.06	0.27 0.6

Wiring Diagram

3-wire



2-wire

